IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF

JESSE T. QUATSE ET AL.

APPLICATION NUMBER: 10/616,486

FILED: JULY 8, 2003

TITLE: HIGH-PRECISION CUSTOMER-
      BASED TARGETING BY INDIVIDUAL
      USAGE STATISTICS

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) ART UNIT: 3622
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) EXAMINER: DANIEL LASTRA
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APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

      This Appeal was commenced by a Notice of Appeal filed on January 19, 2010.

This Appeal Brief is filed within two months from the filing date of the Notice of Appeal. The

Notice of Appeal appeals the final rejection of claims 7-27.

      The headings used hereinafter and the subject matter set forth under each heading

is in accordance with 37 C.F.R. §41.37(c).

I.   REAL PARTY IN INTEREST

Jesse T. Quatse, Anssi Karhinen, and Eric G. Wasserman are the only inventors of the invention described and claimed in the above-identified application. These inventors have assigned all rights, title, and interest in the invention of the application to YT Acquisition Corporation, as evidenced by assignment which was filed with the United States Patent and Trademark Office (USPTO) and recorded on reel 023889, frame 0001. Accordingly, YT Acquisition Corporation is the Appellant and the real party in interest.

II.   RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellant, the

Appellant's legal representative or the inventors, which will directly affect or be directly affected

by or have a bearing on the Board's decision in this pending appeal.

III.   STATUS OF CLAIMS

The present application was filed with Claims 1-27.

Claims 1-6 have been canceled.

Claims 7-27 remain pending in the present application and are currently rejected.

The claims on Appeal are pending claims 7-27.

Particularly, claims 7-12, 18 and 20-27 stand rejected under 35 U.S.C. §102(e) as the Examiner considers them to be anticipated by U.S. Patent Application Publication No. 2003/0208754 to S*ridhar et al.*

Claims 13-17 stand rejected under 35 U.S.C. §103(a) as the Examiner considers them to be obvious over U.S. Patent Application Publication No. 2003/0208754 to *Sridhar et al.* in view of U.S. Patent No. 6,684,195 to *Deaton et al.*

Claim 19 stands rejected under 35 U.S.C. §103(a) as the Examiner considers it to be obvious over U.S. Patent Application Publication No. 2003/0208754 to *Sridhar et al* in view of Official Notice.

IV.   STATUS OF AMENDMENTS

The Amendment filed on August 1, 2005 in response to the first Office Action dated January 31, 2005, was entered. The Request for Continued Examination filed on April 21, 2006 in response to the first Final Office Action dated October 21, 2005 was entered. The Amendment filed on September 7, 2006 in response to the third Office Action dated June 21, 2006 was entered. Claims 20 and 23 were amended after the second Final Office Action to correct an antecedent basis error and to correct two typographical errors. An Appeal Brief and was filed on April 16, 2007. The Examiner's Answer was mailed on August 10, 2007. A Reply Brief and Request for Oral Hearing was filed on October 10, 2007. An Examiner's Answer that included new grounds of rejection under U.S.C. §101 in view of the *In re Bilski* decision[1] was mailed on December 5, 2008. Prosecution was reopened in response to the Examiner's Answer of December 5, 2008. The Amendment filed on February 5, 2009 in response to the Examiner's Answer of December 5, 2008 was entered. Claims 18, 20 and 23 were amended to address §101 rejections. An Amendment filed on July 14, 2009 in response to a non-final Office Action dated April 20, 2009 was entered. A Notice of Appeal was filed on January 19, 2010 in response to the fourth Final Office Action dated November 17, 2009.

The claims on appeal are pending claims 7-27 as included in the Claims Appendix herein.

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[1] 545 F.3d 943 (Fed.Cir. 2008).

V.   SUMMARY OF CLAIMED SUBJECT MATTER

The claims of the present application are directed to methods of targeting advertisements, promotions or the like to customers.

Claim 23

Independent claim 23 is directed to a method of targeting a plurality of customers from a customer database for distribution of limited quantities of promotional offers in an electronic system for distributing promotional offers. The method includes generating a plurality of scores for the plurality of customers such that each score is associated with one customer and with one offer. The score measures a probability that the associated customer will make a purchase in accordance with the associated offer. The method also includes identifying, by a computing device in the electronic system, a highest score in the plurality of scores, determining a customer from the plurality of customers associated with the highest score and determining a first promotional offer from the plurality of promotional offers associated with the highest score. The method includes assigning the first promotional offer to a first personalized offer list for the customer if the first promotional offer satisfies one or more constraints on one or more of a total number of first promotional offers that are distributable and a total number of promotional offers that are distributable to the customer. The method includes successively repeating the identifying, determining and assigning steps for each next highest score until all of the promotional offers in the plurality of promotional offers have been assigned to personalized offer lists, and distributing one or more of the promotional offers to one or more of the customers in the plurality of customers.

Independent claim 23 is described in detail in the specification on page 6, line 23 through line 27; page 8, line 18 through line 24; page 8, line 28 through page 9, line 4; page 12, line 17 through line 29; page 14, line 3 through line 5; page 19, line 11 through page 20, line 7; page 24, line 6 through page 25, line 6; and Figure 12, reference characters 65, 66, 67, 68 and 69, among other locations.

Claim 7

Dependent claim 7 is directed to the method of claim 23, wherein the promotional offers relate to a plurality of products organized in taxonomic product groupings. The method further comprises providing a product grouping probability profile associating with each product grouping a measure of the probability that a customer will purchase a product from the product grouping, and deriving the score for each combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer.

Dependent claim 7 is described in detail in the specification on page 15, line 13 through page 16, line 2; page 19, line 11 through page 20, line 7; page 20, line 8, through page 21, line 10; and Figure 6B, among other locations.

Claim 13

Dependent claim 13 is directed to the method of claim 11, wherein the marketing strategy includes a MoveStock strategy.

Dependent claim 13 is described in detail in the specification on page 20, line 18 through line 21, among other locations.

Claim 14

Dependent claim 14 is directed to the method of claim 11, wherein the marketing strategy includes an UpSell strategy.

Dependent claim 14 is described in detail in the specification on page 21, line 12 through line 13, among other locations

Claim 15

Dependent claim 15 is directed to the method of claim 11, wherein the marketing strategy includes a CrossSell strategy.

Dependent claim 15 is described in detail in the specification on page 21, line 18 through line 20, among other locations.

Claim 16

Dependent claim 16 is directed to the method of claim 11, wherein the marketing strategy includes a Reward strategy.

Dependent claim 16 is described in detail in the specification on page 21, line 27 through line 30, among other locations.

Claim 17

Dependent claim 17 is directed to the method of claim 11, wherein the marketing strategy includes a BrandChange strategy.

Dependent claim 17 is described in detail in the specification on page 21, line 30 through page 22, line 2, among other locations.

Claim 18

Independent claim 18 is directed to a method of adjusting the distribution of limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers in an electronic system for distributing promotional offers. The method includes providing, for each combination of customer and promotional offer from the pluralities, a measure of an acceptance probability that the customer will accept the promotional offer, where the acceptance probability is indicative of a likelihood the customer will accept the promotional offer in comparison to other customers included in the plurality of customers. The method includes presenting the measures of acceptance probabilities for an individual customer in a graphical display on the electronic system. The graphical display includes a plurality of graphic elements, one graphic element being associated with each measure of acceptance probability provided for the individual customer at least for the highest ranking of the measures. The method also includes enabling adjustment of the measures of acceptance probability by movement of the associated graphic elements and selecting, by a computing device in the electronic system, a limited quantity of offers from the plurality of offers for distribution to the individual customer. The limited quantity of offers is selected substantially in descending order of the measures of acceptance probabilities as adjusted in the enabling step. The method includes distributing at least one of the limited quantity of offers to the individual customer.

Independent claim 18 is described in detail in the specification on page 6, line 23 through line 27; page 12, line 17 through line 29; page 13, line 3 through line 5; page 13, line 11 through line 12; page 23, line 8 through line 22; page 23, line 23 through page 24, line 5; page

24, line 6 though page 25, line 6; Figure 3 and Figure 10, reference character 55, among other locations.

Claim 19

Dependent claim 19 is directed to the method of claim 18, wherein the graphical display comprises a bar chart, the graphic elements comprise individual bars of the bar chart, and the movement comprises dragging the bars to lengthen and shorten them and thereby increase and decrease the associated measure of acceptance probability.

Dependent claim 19 is described in detail in the specification on page 23, line 14 through line 17, among other locations.

Claim 20

Independent claim 20 is directed to a method of distributing limited quantities of promotional offers to a plurality of customers utilizing a transaction history database having an identification of transactions engaged in and an identification of products previously purchased by one or more customers in an electronic system for distributing promotional offers. The method includes deriving a historical purchase probability profile from the transaction history database for at least a portion of the customers in the database and for a plurality of product groupings in the database, the historical purchase probability profile providing for each individual customer and for each individual product grouping a measure of the probability that the individual customer will purchase a product from the individual product grouping.

The method also includes, for a customer included in the portion of customers, applying a statistical model to the purchase probability profile to determine an estimated

probability that the customer will purchase a product from the product groupings, the estimated probability being indicative of a likelihood the customer will purchase the product in comparison to all other customers included in the portion of customers. The method includes selecting, by a computing device in the electronic system, for distribution to the customer an offer associated with a product in the product groupings, where the selected offer is associated with a highest estimated probability that the customer will purchase the product in comparison to all other customers included in the portion of customers. The method includes determining whether the selected offer satisfies one or more constraints, where one of the one or more constraints may be a limitation on a total quantity of promotional offers for the product that are distributable to all customers. The method includes, in response to the selected offer satisfying the one or more constraints, distributing the selected offer to the customer.

Dependent claim 20 is described in detail in the specification on page 6, line 27 through line 30; page 8, line 28 through page 9, line 5; page 12, line 17 through line 18; page 15, line 13 through page 16, line 2; page 15, line 13 through page 16, line 2; page 18, line 9 through line 20; and Figure 6B, among other locations.

VI.   GROUND OF REJECTIONS TO BE REVIEWED ON APPEAL

Whether claims 7-12, 18 and 20-27 should be held rejected as anticipated under 35 U.S.C. §102(e) by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar et al.* ("*Sridhar*").

Whether claims 13-17 should be held rejected as being unpatentable over *Sridhar* in view of U.S. Patent No. 6,684,195 to *Deaton et al.* ("*Deaton*").

Whether claim 19 should be held rejected as being unpatentable over *Sridhar* in view of Official Notice.

VII.   ARGUMENTS

The Arguments made in the Response dated July 14, 2009 in response to the Office Action dated April 20, 2009 are hereby fully incorporated by reference. Each ground of rejection presented for review is addressed hereinafter under the appropriate heading.

For the reasons discussed in more detail below, each of the claims presented in the pending application is neither anticipated nor rendered obvious and, as a result, the final rejections presented in the November 17, 2009 Office Action are unfounded. In particular, the *Sridhar* reference, which is primarily relied upon in the November 17, 2009 Office Action to reject all of the pending claims, discloses methods and systems substantially different from those claimed in the pending application. *Sridhar* discloses systems and methods that are directed to individuals and predicting the likelihood that an individual will accept a single given offer. In contrast to the individualized nature of *Sridhar*, the claims of the pending application are directed to identifying the best fit between a plurality of offers and a plurality of individuals. This fundamental distinction between the pending claims and the *Sridhar* disclosure render the rejections presented in the November 17, 2009 Office Action unsupportable and require the allowance of each of the pending claims.

A.   Claims 7-12, 18 and 20-27 Are Not Anticipated under 35 USC §102(e) by *Sridhar*

A patent is invalid under 35 U.S.C. §102(e) if there exists a patent application published before the priority date of the first patent that discloses the same invention. To anticipate a claim, a reference must disclose every element of the challenged claim and allow one skilled in the art to make the anticipating subject matter.[2]

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[2] General Electric Co. v. Nintendo Co., Ltd., 179 F.3d 1350, 1356 (Fed. Cir. 1999); PPG Indus. v. Guardian
(continued...)

Independent Claim 23

           Appellant submits that independent claim 23 is not anticipated by U.S. Patent

Application Publication No. 2003/0208754 to *Sridhar* because *Sridhar* fails to disclose each and

every element of claim 23.[3] More particularly, Appellant submits that *Sridhar* fails to disclose,

among other things, at least the following elements required by claim 23:

- generating a plurality of scores for said plurality of customers, each said score being associated with one said customer and with one said offer, and each said score measuring a probability that the associated customer will make a purchase in accordance with the associated offer;

- identifying, by a computing device in said electronic system, a highest score in said plurality of scores;

- determining a customer, from said plurality of customers, associated with said highest score, and a first promotional offer, from said plurality of promotional offers, associated with said highest score;

- assigning said first promotional offer to a first personalized offer list for said customer if said first promotional offer satisfies one or more constraints on one or more of the following: a total number of first promotional offers that are distributable, and a total number of promotional offers that are distributable to said customer; and

- successively repeating said identifying, determining and assigning steps for each next highest score until all of the promotional offers in said plurality of promotional offers have been assigned to personalized offer lists.

(continued...)

Indus. Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996).

    [3] *See* MPEP §2131 (stating that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in the single prior art reference); Gen. Elec. Co. v. Nintendo Co., Ltd., 179 F.3d 1350, 1356 (Fed. Cir. 1999); PPG Indus., Inc. v. Guardian Indus. Corp., 75 F.3d 1558, 1566 (Fed. Cir. 1996).

   Sridhar discloses a system and method for providing a subscriber with relevant advertisements based on the subscriber's purchase prediction for various products and information such as location, ongoing events and personal events (*See Sridhar* ¶0024). The purchase prediction is determined for <u>individual</u> subscribers as illustrated by the specification language from *Sridhar* which provides "[t]he objective for the advertisement system is two folds [sic] one to attract the subscriber to a relevant event, which is close to him, and second to draw his attention to a product which has [sic] largest purchase prediction **for him**" (*Sridhar* ¶0156, emphasis added).

   Unlike the methods of *Sridhar*, the method of claim 23 is directed to generating a <u>plurality</u> of scores for a <u>plurality</u> of customers. Claim 23 requires identifying the highest score of the plurality of scores, determining a customer and promotional offer associated with the highest score and assigning the associated promotional offer to the associated customer if one or more constraints are met. Specifically, claim 23 requires that the promotional offer be within a total number of promotional offers that are distributable and/or a total number of promotional offers that are distributable to that customer. Claim 23 also requires successively repeating these steps for offers having the next highest score until all of the offers have been assigned to customers.

   In contrast, the system in *Sridhar* analyzes advertisements for a **single** customer in isolation (i.e., only one customer is considered at a time). The system in *Sridhar* distributes what it determines to be the best advertisement based on analyzing information only for the considered customer instead of examining advertisements for a plurality of customers concurrently. As such, the *Sridhar* system distributes what it determines to be the best advertisement to a customer regardless of whether that advertisement would have a higher likelihood of being accepted by another customer.

Therefore, the system of *Sridhar* distributes advertisements to subscribers who do not have the highest probability of purchasing the product being promoted because *Sridhar* only teaches determining a purchase prediction for an individual subscriber. This is especially true when constraints are placed on the number of advertisements that may be distributed or the number of advertisements a specific customer may receive. In other words, an advertisement having the highest probability of being selected by one customer may have an even higher probability of being selected by a different customer. Claim 23 requires analyzing a plurality of probabilities for a plurality of customers and, as such, can target offers to particular customers having the highest probability of purchasing the product being promoted.

In addition, claim 23 requires that an offer be assigned to a customer only if the offer is within a total number of promotional offers that are distributable and/or a total number of promotional offers that are distributable to that customer. *Sridhar* does not disclose assigning an advertisement to a customer based on such constraints.

The *Sridhar* system selects an advertisement having the highest score out of scores for a single customer, not an offer having the highest score out of scores for a plurality of customers. This is because the *Sridhar* system never generates a plurality of scores for more than one customer at a time and, as such, is incapable of identifying the highest score in the plurality of scores generated for a plurality of customers as required by claim 23.

Figure 3 from the present application illustrates an exemplary plurality of scores generated according to the teachings of claim 23, and is reproduced below for comparison with the *Sridhar* system. Appellant's claimed system generates a plurality of scores for a plurality of customers as is illustrated by Figure 3. In contrast, the Sridhar Chart depicts a score matrix as it would be generated based on the operation of the *Sridhar* methods and systems. As illustrated

by the Sridhar Chart, the *Sridhar* system merely determines an advertisement based on

probabilities of acceptance for an individual customer (in this example, customer-4). In other

words, the *Sridhar* system is merely capable of populating one row of the score matrix depicted

in Figure 3, whereas the claimed system is capable of populating the entire matrix because it

generates scores for a plurality of customers, rather than a single customer.

	OFFER PROBABILITY / SCORE			
	offer-1	offer-2	offer-3	offer-4
customer-1	0.006	0.002	0.004	0.009
customer-2	0.007	0.011	0.020	0.001
customer-3	0.009	0.001	0.003	0.002
customer-4	0.004	0.003	0.002	0.005

FIG. 3

	OFFER PROBABILITY / SCORE			
	offer-1	offer-2	offer-3	offer-4
customer-4	0.004	0.003	0.002	0.005

Sridhar Chart

In light of the foregoing, *Sridhar* fails to disclose every element of claim 23, and,

as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Claims 7-

12 and 24-27 depend from claim 23 and thus contain all of the limitations of claim 23.

Accordingly, Appellant requests that the §102(e) rejections associated with claims 7-12 and 23-

27 be withdrawn.

Dependent Claim 7

In addition to the arguments set forth above, when compared to dependent claim 7 of the present application, *Sridhar* fails to disclose, among other things, the following additional elements recited in claim 7:

- providing a product grouping probability profile associating with each said product grouping a measure of the probability that a customer will purchase a product from said product grouping; and

- deriving said score for each said combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer.

The Examiner asserts that paragraphs 0213-0229 of *Sridhar* disclose providing a product grouping probability profile; however, the cited paragraphs merely describe an algorithm for generating a weekly plan for streaming to a subscriber. The algorithm in *Sridhar* entails selecting a subscriber, obtaining a product list associated with the subscriber, obtaining advertisements corresponding to the product list, and grouping the advertisements by product.[4] The algorithm in *Sridhar* then computes the number of streams allowable per group and compares the number of streams to the number of streams permitted.[5]

In contrast, the claimed method provides product groupings and determines the probability of a customer purchasing a product from the product grouping. This is illustrated by FIG. 6B of the present application, which is reproduced below.

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[4] *See Sridhar* at ¶¶ 0218-0221.

[5] *See id.* at ¶¶ 0222-0229.

SKU Grouping Probability Profile, Customer X							
SKU Grouping	...	32,37	33,36,42	34	35,36	37,32	...
Probability	...	0.5	0.75	0	0.75	0.5	...

FIG. 6B

FIG. 6B depicts product groupings based on SKU numbers. For example, the first product grouping contains the products represented by SKU numbers 32 and 37. The product grouping probability profile also includes the probability that a customer will purchase a product from the product grouping. For example, referring to FIG. 6B, the probability that Customer X will purchase a product from the product grouping {32, 37} is 0.5.

Sridhar does not teach or disclose providing a product grouping probability profile that associates a probability that a customer will purchase a product from the product grouping with each product grouping. In fact, the groupings discussed in the paragraphs cited by the Examiner refer to advertisement groupings that correspond to the products to which the advertisements correspond, but do not refer to product groupings as required by claim 7. Moreover, the cited paragraphs merely relate to the number of advertisements that may be sent in a certain week, and not to the probability that a customer will purchase a product in a product grouping. In fact, purchase prediction or purchase probability is not even discussed in paragraphs 0213-0229.

As such, *Sridhar* fails to disclose every element of claim 7, and does not render the present invention unpatentable under 35 U.S.C. §102(e). Accordingly, Appellant requests that the §102(e) rejections associated with claim 7 be withdrawn.

Independent Claim 18

      Appellant submits that independent claim 18 is not anticipated by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar* because *Sridhar* fails to disclose each and every element of claim 18.[6] More particularly, Appellant submits that *Sridhar* fails to disclose, among other things, at least the following element required by claim 18:

> •   providing, for each combination of customer and promotional offer from said pluralities, a measure of an acceptance probability that the customer will accept the promotional offer, said acceptance probability being indicative of a likelihood said customer will accept the promotional offer in comparison to other customers included in said plurality of customers.

      The Examiner asserts that this element of claim 18 is present in *Sridhar*, especially at paragraphs 0175-0201. As discussed above with respect to claims 23-27 and 7-12, however, *Sridhar* merely describes determining a purchase prediction for an <u>individual subscriber</u>. Claim 18, on the other hand, is directed to providing an acceptance probability to a <u>plurality of customers</u>, and more specifically, to each combination of customer and offer from a plurality of customers and a plurality of offers. In addition, this acceptance probability indicates a likelihood that a customer will accept the promotional offer <u>in comparison to other customers in the plurality of customers</u>. In contrast, the system in *Sridhar* merely distributes what it determines to be the best advertisement for the considered customer independent of the acceptance probability of any other customer.

      Referring to the figures below, the claimed method provides an acceptance probability for each customer/offer combination, and, as such, is able to populate the chart illustrated in FIG. 3. *Sridhar*, as illustrated by the Sridhar Chart, is merely able to populate one row of FIG. 3, since *Sridhar* only determines a purchase prediction for an individual subscriber.

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[6] *See* MPEP §2131.

OFFER PROBABILITY / SCORE			
offer-1	offer-2	offer-3	offer-4
customer-1	0.006	0.002	0.004	0.009
customer-2	0.007	0.011	0.02	0.001
customer-3	0.009	0.001	0.003	0.002
customer-4	0.004	0.003	0.002	0.005

FIG. 3

OFFER PROBABILITY / SCORE			
offer-1	offer-2	offer-3	offer-4
customer-4	0.004	0.003	0.002	0.005

Sridhar Chart

For at least these reasons, *Sridhar* fails to disclose every element of claim 18, and, as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Accordingly, Appellant requests that the §102(e) rejection associated with claim 18 be withdrawn.

Independent Claim 20

Appellant submits that independent claim 20 is not anticipated by U.S. Patent Application Publication No. 2003/0208754 to *Sridhar* because *Sridhar* fails to disclose each and every element of claim 20. More particularly, Appellant submits that *Sridhar* fails to disclose, among other things, at least the following required element of claim 20:

• for a customer included in said portion of the customers, applying a statistical model to said purchase probability profile to determine an estimated probability that said customer will purchase a product from said product groupings, said estimated probability being indicative of a

likelihood said customer will purchase said product in comparison to all other customers included in said portion of customers;

- selecting, by a computing device in said electronic system, for distribution to said customer an offer associated with a product in said product groupings, wherein said selected offer is associated with a highest estimated probability that said customer will purchase said product in comparison to all other customers included in said portion of customers, and

- determining whether said selected offer satisfies one or more constraints, wherein one of the one or more constraints is a limitation on a total quantity of promotional offers for said product that are distributable to all customers.

The Examiner asserts that this element of claim 20 is present in *Sridhar* at paragraph 0175. As discussed above with respect to claims 23-27 and 7-12, however, the methods of *Sridhar* only determine a purchase prediction for an individual subscriber and this purchase prediction is selected independently of the purchase predictions of other subscribers. As such, the system of *Sridhar* may distribute advertisements to subscribers who do not have the highest probability of purchasing the product being promoted. This is especially true when constraints are placed on the number of advertisements that may be distributed or the number of advertisements a specific customer may receive. In other words, an advertisement having the highest probability of being selected by one customer may have an even higher probability of being selected by a different customer. Claim 20 requires analyzing a plurality of probabilities for a plurality of customers and, as such, can target offers to particular customers having the highest probability of purchasing the product being promoted.

Sridhar fails to disclose every element of claim 20, and, as such, does not render the present invention unpatentable under 35 U.S.C. §102(e). Claims 21 and 22 depend from claim 20 and thus contain all of the limitations of claim 20. Accordingly, Appellant requests that the §102(e) rejections associated with claims 20-22 be withdrawn.

B.   Claims 13-17 Are not Obvious under 35 U.S.C. §103(a) over *Sridhar* and Further in View of *Deaton*

To determine obviousness, a four part test, as set forth in Graham v. John Deere Co., is employed to examine the: (i) content and scope of the prior art; (ii) level of ordinary skill in the art; (iii) differences between the prior art and the claimed invention; and (iv) objective evidence of non-obviousness.[7] To establish a *prima facie* case of obviousness, there must be some suggestion or motivation to combine the references, there must be some reasonable expectation of success based upon the teachings of the references and the prior art references, when combined, must teach or suggest all of the claim limitations.[8] In order to rely on a reference under 35 U.S.C. §103(a), the reference must be analogous prior art.[9]

In order to rely on a reference as a basis for rejection of the claimed invention, the reference must either be in the field of the inventor's endeavor or be reasonably pertinent to the particular problem with which the inventor was concerned.[10] Generally, a reference may be considered reasonably pertinent if, even though it is in a different field, it is one which logically

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[7] Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966); Iron Grip Barbell Co., Inc. v. USA Sports, Inc., 392 F.3d 1317, 1320 (Fed. Cir. 2004).

[8] MPEP §2143.

[9] In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

[10] Oetiker, 977 F.2d at 1447; *see also* In re Clay, 966 F.2d 656, 659 (Fed. Cir. 1992). In In re Clay, the Court held that the reference at issue could not be considered to be within the inventor's field of endeavor "merely because both relate to the petroleum industry." Id. The prior art reference taught the use of a gel in irregular volumes within underground, natural oil bearing formations to direct flow under extreme conditions, whereas the invention at issue taught introduction of gel to a confined volume in a man-made storage tank at ambient temperature and atmospheric pressure. Id. Based upon the teachings, the Court found that the field of endeavor of the prior art reference was "*extraction* of crude petroleum" whereas the inventor's field of endeavor was the "*storage* of refined liquid hydrocarbons." Id.

would have commended itself to an inventor's attention in considering the problem.[11] The

similarities and differences in structure and function of the inventions carry great weight in

determining whether references are of analogous or non-analogous art.[12]

        Claims 13-17 are nonobvious over *Sridhar* in view of U.S. Patent No. 6,684,195

to *Deaton et al.* because the cited references, whether taken alone or in combination, fail to teach

or suggest each and every limitation of claims 13-17. For reasons similar to those set forth

hereinabove with respect to claim 23, Appellant submits that *Sridhar* fails to teach or suggest,

among other things, generating a plurality of scores for a plurality of customers and identifying

the highest score in the plurality of scores.

        Deaton fails to remedy the defects of *Sridhar* with respect to claims 13-17.

Deaton is cited as disclosing certain marketing strategies which are not taught by *Sridhar*,

including MoveStock strategy, UpSell strategy, Cross Sell strategy, Reward strategy and

BrandChange strategy. *Deaton* is directed to methods and systems for generating promotions

based on an individual customer's purchase history. For example, the *Deaton* system accesses a

customer's records at a point-of-sale terminal using a customer identifier and, based on the

customer's transaction history, generates marketing information for that individual customer.[13]

As such, *Deaton*, like *Sridhar*, merely generates marketing information pertaining to a single

customer. In contrast, claims 13-17 require generating a plurality of scores for a plurality of

[11] Clay, 966 F.2d at 659.

[12] *See* MPEP §2141.01(a).

[13] *See Deaton* at column 4, lines 50-64.

customers, identifying the highest score in the plurality of scores and providing the marketing

information most likely to be accepted to each customer.

In light of the foregoing, claims 13-17 are nonobvious over the combination of

Sridhar and *Deaton* because the cited references, whether considered alone or in combination,

fail to teach or suggest each and every limitation of claims 13-17. Accordingly, Appellant

requests that the §103(a) objections associated with claims 13-17 be withdrawn.

C.   Claim 19 Is not Obvious under 35 U.S.C. §103(A) over *Sridhar* in view of
     Official Notice

Appellant submits that claim 19 is nonobvious over *Sridhar* in view of Official

Notice because the cited reference fails to teach or suggest each and every limitation of claim

19.[14]

Appellant agrees with the Office that *Sridhar* fails to teach or suggest a graphical

display having a bar chart, the graphic elements comprising individual bars of the bar chart, and

the movement comprising dragging the bars to lengthen and shorten them and thereby increase

and decrease the associated measure of acceptance probability as required by claim 19.

However, the Office asserts that it is well known in the computer art to use

software programs to create bar charts from input data and adjust the bar charts according to a

user preference. As such, the Office asserts that it would have been obvious to one of ordinary

skill in the art to know that if Sridhar sorts the acceptance probability in order to determine the

products with the largest purchase predictions, Sridhar would also present all the purchase

prediction products in a graphic bar chart that would be adjustable by a user.

[14] See MPEP §2143.

Appellant respectfully disagrees. As discussed above with respect to independent claim 18, *Sridhar* fails to teach or suggest sorting acceptance probabilities in order to determine the products with the largest purchase predictions as asserted by the Office. In addition, the Office has failed to show through Official Notice that enabling adjustment of measures of acceptance probability by dragging bars of a bar chart to lengthen and shorten them to thereby increase and decrease the associated measure of acceptance probability was known in the art prior to the filing of the present application.
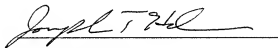
As such, claim 19 is nonobvious over *Sridhar* because *Sridhar* fails to teach or suggest each and every limitation of claim 19. Accordingly, Appellant requests that the §103(a) objections associated with claim 19 be withdrawn.

VIII.   CONCLUSION

In light of the arguments and points discussed more fully above, the rejections presented in the November 17, 2009 Office Action should be withdrawn as such rejections are based upon references that neither individually nor collectively teach or suggest all of the limitations in the pending claims. As a result, the pending claims are allowable, and Appellant respectfully requests that the Board so rule.

Appellant paid the fee required under 37 C.F.R. §41.20(b)(2) in the amount of $500.00 on April 16, 2007 with the submission of the first Appeal Brief, prosecution for which was subsequently reopened on the Office's initiative. As such, pursuant to MPEP §1204.01, Appellant believes the previously paid fee required under 37 C.F.R. §41.20(b)(2) should be applied to the fee associated with the appeal of this application. The Commissioner for Patents is hereby authorized to charge any additional fees, or any difference in fees, which may be required to Deposit Account No. 50-0436. Please refund any overpayment to Deposit Account No. 50-0436.

Respectfully submitted,
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Date: February 8, 2010

IX.   CLAIMS APPENDIX

1-6.   (Cancelled).

7.   (Previously Presented)   The method of claim 23, wherein said promotional offers relate to a plurality of products organized in taxonomic product groupings, and the method further comprises:

providing a product grouping probability profile associating with each said product grouping a measure of the probability that a customer will purchase a product from said product grouping; and

deriving said score for each said combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer.

8.   (Previously Presented)   The method of claim 7, further comprising:

providing access to a transaction history database for at least a substantial portion of said plurality of customers, wherein the database associates with each customer of said substantial portion an identification of transactions engaged in by the customer and an identification of products previously purchased by the customer in each of the transactions;

providing a transaction summary data structure associating with each said customer the total number of transactions the customer has engaged in and the numbers of transactions including each said product grouping;

averaging the product groupings per transaction from said transaction summary data structure for at least a portion of said customers; and

deriving said measure of probability associated with each said product grouping from the averaged product groupings per transaction for the associated product grouping.

9.   (Original)   The method of claim 7, further comprising:

normalizing said product grouping probability profile for an individual customer to reflect a relative probability of said individual customer purchasing from a product grouping with respect to an average probability for a customer to purchase from said product grouping.

10.   (Original)   The method of claim 7, further comprising:

applying preprogrammed targeting criteria embodying a marketing strategy to said product grouping probability profile to provide a profile of offer scores.

11.   (Original)   The method of claim 10, wherein

said marketing strategy includes at least one targeting product grouping and a promoted product grouping linked to said at least one targeting product grouping; and

said promotional offers are distributed only to customers having a high probability of acceptance from said at least one targeting product grouping.

12.   (Original)   The method of claim 11, further comprising:

providing a taxonomy of said product groupings;

wherein said at least one targeting product grouping is defined in reference to said taxonomy.

13. (Original) The method of claim 11, wherein said marketing strategy includes a MoveStock strategy.

14. (Original) The method of claim 11, wherein said marketing strategy includes an UpSell strategy.

15. (Original) The method of claim 11, wherein said marketing strategy includes a CrossSell strategy.

16. (Original) The method of claim 11, wherein said marketing strategy includes a Reward strategy.

17. (Original) The method of claim 11, wherein said marketing strategy includes a BrandChange strategy.

18. (Previously Presented) In an electronic system for distributing promotional offers, a method of adjusting the distribution of limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers comprising:

providing, for each combination of customer and promotional offer from said pluralities, a measure of an acceptance probability that the customer will accept the promotional offer, said acceptance probability being indicative of a likelihood said customer will accept the promotional offer in comparison to other customers included in said plurality of customers;

presenting the measures of acceptance probabilities for an individual customer in a graphical display on said electronic system,

wherein said graphical display includes a plurality of graphic elements, one said graphic element being associated with each said measure of acceptance probability provided for said individual customer at least for the highest ranking of said measures;

enabling adjustment of said measures of acceptance probability by movement of the associated graphic elements;

selecting, by a computing device in said electronic system, a limited quantity of offers from said plurality of offers for distribution to said individual customer,

wherein said limited quantity of offers are selected substantially in descending order of said measures of acceptance probabilities as adjusted in said enabling step; and

distributing at least one of the limited quantity of offers to said individual customer.

19.   (Original)   The method of claim 18, wherein said graphical display comprises a bar chart, said graphic elements comprise individual bars of said bar chart, and said movement comprises dragging said bars to lengthen and shorten them and thereby increase and decrease the associated measure of acceptance probability.

20.   (Previously Presented) In an electronic system for distributing promotional offers, a method of distributing limited quantities of promotional offers to a plurality of customers utilizing a transaction history database comprising an identification of transactions engaged in and an identification of products previously purchased by one or more customers, said method comprising:

deriving a historical purchase probability profile from said transaction history database for at least a portion of the customers in said database and for a plurality of product groupings in said database, said historical purchase probability profile providing for each individual customer and for each individual product grouping a measure of the probability that said individual customer will purchase a product from said individual product grouping;

for a customer included in said portion of the customers, applying a statistical model to said purchase probability profile to determine an estimated probability that said customer will purchase a product from said product groupings, said estimated probability being indicative of a likelihood said customer will purchase said product in comparison to all other customers included in said portion of customers;

selecting, by a computing device in said electronic system, for distribution to said customer an offer associated with a product in said product groupings, wherein said selected offer is associated with a highest estimated probability that said customer will purchase said product in comparison to all other customers included in said portion of customers,

determining whether said selected offer satisfies one or more constraints, wherein one of the one or more constraints is a limitation on a total quantity of promotional offers for said product that are distributable to all customers; and

in response to said selected offer satisfying the one or more constraints, distributing the selected offer to said customer.

21. (Original) The method of claim 20 wherein said statistical model is an empirical Bayesian statistical model.

22. (Original) The method of claim 20 wherein one or more of said product groupings includes one and only one product.

23. (Previously Presented) In an electronic system for distributing promotional offers, a method of targeting a plurality of customers from a customer database for distribution of limited quantities of promotional offers, the method comprising:

generating a plurality of scores for said plurality of customers, each said score being associated with one said customer and with one said offer, and each said score measuring a probability that the associated customer will make a purchase in accordance with the associated offer;

identifying, by a computing device in said electronic system, a highest score in said plurality of scores;

determining:

a customer, from said plurality of customers, associated with said highest score, and

a first promotional offer, from said plurality of promotional offers, associated with said highest score;

assigning said first promotional offer to a first personalized offer list for said customer if said first promotional offer satisfies one or more constraints on one or more of the following:

a total number of first promotional offers that are distributable, and

a total number of promotional offers that are distributable to said customer;

successively repeating said identifying, determining and assigning steps for each next highest score until all of the promotional offers in said plurality of promotional offers have been assigned to personalized offer lists; and

distributing one or more of the promotional offers to one or more of the customers in said plurality of customers.

24.   (Previously Presented)   The method of claim 23, wherein said promotional offers relate to a plurality of products organized in taxonomic groupings, and the method further comprises:

basing the scores associated with one or more of said offers on the grouping probability that a customer will purchase any product in a given taxonomic grouping.

25.   (Previously Presented)   The method of claim 24 wherein a score is based on said grouping probability and the offer associated with said score is for a product included in said given taxonomic grouping.

26.   (Previously Presented)   The method of claim 24 wherein a score is based on said grouping probability and the offer associated with said score is for a product not included in said given taxonomic grouping.

27.   (Previously Presented)   The method of claim 23 wherein said one or more constraints include a limit on the number of offers delivered to any individual customer and said method further comprises:

performing said assigning step for each said identified customer only a number of times equal to said limit.

X.   EVIDENCE APPENDIX

U.S. Patent Application Publication Number 2003/0208754 to *Sridhar et al.* was entered into the record by the Examiner on page 5 of the Office Action mailed on January 31, 2005.

U.S. Patent No. 6,684,195 to *Deaton et al.* was entered into the record by the Examiner on page 12 of the Office Action mailed on January 31, 2005.

XI.   RELATED PROCEEDINGS APPENDIX

None.